

**We Claim:**

1           1.       A method of operating a comfort system having an evaporator for  
2     conducting the flow of refrigerant therethrough and a heat exchanger for conducting  
3     the flow of hot gases therethrough, and a blower for selectively circulating air over  
4     either said heat exchanger to affect the transfer of heat to said air or over said  
5     evaporator to affect the transfer of heat from said air comprising the steps of:  
6                 simultaneously causing the refrigerant flow to said evaporator and the hot gas  
7     to flow through said heat exchanger while causing said blower to circulate air over  
8     both said evaporator and said heat exchanger; and  
9                 causing said refrigerant to flow from said evaporator into a high pressure side  
10    of a compressor such that said compressor operates in reverse as an expander to  
11    drive a power generator.

1           2.       A method as set forth in claim 1 and including the further step of  
2     causing said refrigerant to flow from a low pressure side of said compressor to a  
3     condenser.

1           3.       A method as set forth in claim 1 and including the step of pumping  
2     liquid refrigerant from said condenser to said evaporator.

1           4.       A method as set forth in claim 1 wherein said evaporator is within a  
2     closed circuit for serially conducting the flow of refrigerant from said evaporator to a  
3     low pressure side of said compressor and from high pressure side of said compressor  
4     to a condenser and to an expansion valve, and wherein the method includes the  
5     additional step of diverting the flow of refrigerant to flow into the high pressure side  
6     rather than a low pressure side of said compressor.

1           5.       A method as set forth in claim 4 and including the step of diverting  
2     the flow of refrigerant to flow from a low pressure side of said compressor rather  
3     than from a high pressure side thereof.

1           6.       A method as set forth in claim 4 and including the step of diverting  
2       the flow of refrigerant to a pump rather than to said expansion valve.

1           7.       A method as set forth in claim 4 and including the step of diverting  
2       the flow of refrigerant to flow from said pump rather than from said expansion  
3       valve.

1           8.       A comfort system for heating or cooling air by the selective  
2       circulation of air over a furnace heat exchanger or over an air conditioning  
3       evaporator coil comprising:  
4               a heating system for circulating hot gases through the heat exchanger;  
5               an air conditioning system for circulating refrigerant through an evaporator  
6       coil, a compressor , a condenser and an expansion valve;  
7               an activation control for simultaneously operating said heating and air  
8       conditioning systems to cause a combined heating of the air circulated thereover; and  
9               flow control apparatus for causing the flow of refrigerant to pass from said  
10       evaporator to a high pressure side of said compressor such that said compressor is  
11       driven in reverse to function as a turbine.

1           9.       A comfort system as set forth in claim 8 wherein said compressor is a  
2       motor driven compressor and further wherein when said compressor is made to  
3       operate in reverse, said compressor functions to drive said motor in reverse to  
4       generate power.

1           10.      A comfort system as set forth in claim 8 wherein said compressor is a  
2       scroll compressor.

1           11.      A comfort system as set forth in claim 8 wherein said compressor is a  
2       screw compressor.

1           12.     A comfort system as set forth in claim 8 and including a pump for  
2 circulating refrigerant from said condenser to said evaporator.

1           13.     A comfort system as set forth in claim 8 wherein said flow control  
2 apparatus includes valve means for conducting the flow of refrigerant from a low  
3 pressure side of said compressor to said condenser.

1           14.     A comfort system as set forth in claim 8 wherein flow control  
2 apparatus includes valve means for conducting the flow of refrigerant from said  
3 condenser to a pump.

1           15.     A comfort system as set forth in claim 8 wherein said flow control  
2 apparatus includes valve means for conducting the flow of refrigerant of a pump to  
3 said evaporator.

1           16.     A comfort system as set forth in claim 8 wherein said flow control  
2 apparatus includes at least one three way valve.

1           17.     A comfort system as set forth in claim 8 wherein said activation  
2 control also includes a battery.

1           18.     A method operating a comfort system having a heating system and a  
2 cooling system, the heating system having a heat exchanger through which hot gases  
3 are circulated and over which air is circulated to be heated, and the cooling system  
4 having in serial flow relationship a motor driven compressor, a condenser, an  
5 expansion valve and an evaporator coil, said heat exchanger and said evaporator coil  
6 both being in the path of the circulated air, comprising the steps of:  
7           causing said comfort system to operate such that circulated air passes over  
8 both said heat exchanger to be heated and over said evaporator coil; and

9           changing the flow of refrigerant into said compressor from a low pressure  
10   side thereof to a high pressure side thereof so as to cause it to operate in reverse as a  
11   turbine.

1           19.    A method as set forth in claim 18 and including the step of providing  
2   a pump to circulate refrigerant from said condenser to said evaporator coil.

1           20.    A method as set forth in claim 18 wherein said compressor is motor  
2   driven and further wherein the step of causing said compressor to operate in reverse  
3   also causes said compressor to drive said motor in reverse such that said motor  
4   functions as a generator.

1           21.    A method as set forth in claim 18 wherein said compressor is a scroll  
2   compressor.

1           22.    A method as set forth in claim 18 wherein said compressor is a screw  
2   compressor.